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EXAMINER

LEUBECKER, JOHN P

ART UNIT

PAPER NUMBER

3739

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,736	Applicant(s) GILAD ET AL.	
	Examiner John P. Leubecker	Art Unit 3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-22 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-22 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Claim Objections

1. Claim 14 is objected to because of the following informalities: in claim 14, the preamble “The circuit board...” improperly refers back to a single element of the combination (i.e., imaging device) and not the combination itself. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 8-11, 21 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 21, from which claim 22 depends, this claim further requires that the sensor include a socket or slot configured for accommodating a side edge of a second circuit board. This sensor is already defined in claim 20 as including a rigid circuit board extending substantially perpendicularly to the image sensor. As was previously attempted to be explained, the specification fails to describe a combination wherein a sensor includes BOTH a perpendicular circuit board AND a socket or slot configured for accommodating a second circuit board.

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Regarding claim 8 (from which claims 9-11 depend), claim 8 requires an illumination source on the second circuit board. Claim 1, from which claim 8 depends, now recites a that the FIRST circuit board includes an illumination source. The specification fails to disclose the combination of elements wherein an illumination source is disposed on BOTH the first and second circuit boards wherein these circuit boards are perpendicular to each other.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 2, 4-20 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Havens et al. (U.S. Pat. 5,780,834).

As to claims 1, 13 and 20, and referring mainly to Figure 1, Havens et al. disclose an imaging device comprising a first rigid circuit board (45) having disposed thereon an image sensor (43) and at least one illumination source (20,50), said first circuit board having a top surface (side that includes image sensor 43) and a bottom surface (opposite side); and a second rigid circuit board (54), said second circuit board being in electrical communication with the first circuit board (through pin connector 57) and extending at an angle of about 90° from the bottom surface of the first circuit board (note Figure 1).

As to claims 2 and 14, the second circuit board is substantially perpendicular to the first circuit board (note Figure 1).

As to claim 4 and 19, the illumination source includes an LED (20).

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As to claim 5 and 16, the second circuit board comprises circuitry for processing image signals (col.5, lines 7-9).

As to claim 6, 7, 12, 17 and 18, the second circuit board is configured for accommodating an ASIC, a transmitter or a power source (at least terminals for supplying power) by mere nature of these being electrical components and a circuit board is configured to accommodate electrical components.

As to claims 8 and 9, the second circuit board includes an illumination source (LEDs 20 are disposed to be connected to both first and second circuited boards (note Fig.3).

As to claims 10 and 11, the device further comprises a light redirecting device which can consist of a mirror (13, col.3, lines 17-25 and 44-48).

As to claim 15, the pin connector (57) would constitute electrically communicating means.

As to claim 31, Havens et al., as described with respect to claim 13, further includes an optical window (either 40 or 41, Fig.3) behind which the elements are disposed.

6. Claims 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Eguchi et al. (JP 2001104241) for the reasons set forth in numbered paragraph 10 of the previous Office Action, paper number 20080315.

As to the newly added limitations, the antenna (141) is coiled about the circuit board (i.e., 120,130). As to claim 29, note housing (17,55, Fig.6).

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7. Claim 13-20 and 26-31 are rejected under 35 U.S.C. 102(a or e) as being anticipated by Gazdzinski (US 2002/0103417) for the reasons set forth in numbered paragraph 9 of the previous Office Action, paper number 20080315.

As to the newly added limitations in claim 13, taking the claimed first circuit board as being circuit board (510) in Gazdzinski and the claimed second circuit board as being the circuit board shown as the rectangular cross-hatched element to which the image sensor 402 is attached (Fig.5), then the second circuit board is perpendicular to the first and includes an illumination source (504). Regarding claim 26, note antenna (532) extends around the housing (Fig.3) and thus is coiled about the circuit boards. Regarding claim 29, note housing (302a,302b).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2, and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gazdzinski in view of Mizuno (US 2002/0198439).

Gazdzinski discloses a first circuit board (not numbered but show as rectangular cross-hatched element to which the image sensor 402 is attached, Fig.5) and a second circuit board (510, the one attached to the first circuit board in Fig.5) extending perpendicularly from one side of the first circuit board and including a LED (504) and fiber optic light guide (506). Second circuit board is mechanically and electrically attached to the first circuit board (Fig.5) since the

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image sensor is electrically connected to the other components ([0049]), which include a processor (512,514,520) and transmitter (526).

Gazdzinski discloses that the illumination source (LED 504) is disposed on the second circuit board (the one that does not include the imaging device and is perpendicular to the first) and not the first. Accordingly, a fiber optic guide (506) is needed to transmit the light from the second circuit board, past the first circuit board and to the window (306b). Mizuno discloses a similar capsule device in which the illumination source (5) is disposed on the first circuit board (the one containing the imaging device 4). It would have been obvious to one of ordinary skill in the art to have provided the illumination source (504) of Gazdzinski on the first circuit board, adjacent the imaging device, since such arrangement has been contemplated in the art and such arrangement would desirably eliminate the need for a fiber optic guide, thus reducing the size and number of components needed.

Response to Arguments

10. Applicant's arguments filed September 15, 2008 have been fully considered but they are not persuasive.

Due to the amendments to the claims regarding the circuit boards being “rigid”, the rejection of the claims over Anvi has been withdrawn.

Regarding the Gazdzinski reference, the amendments to the claims concerning the illumination source is addressed above. It is noted that some of the claims allow for the illumination source to be disposed on the circuit board that is extending perpendicular to the circuit board that includes the image sensor (i.e., claim 20). Gazdzinski anticipates this.

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Regarding claim 26, Applicant argues that antenna (532) of Gazdzinski is "external to the housing". The Examiner could not find any evidence of this. Even the outermost portion of antenna (532), which appear in Figure 5 to be within the wall of the housing, are not external to the housing (note Figure 3 which does not show the antenna breaking the surface of the housing). However, the coils associated with such antenna (Fig.5) are definitely internal to the housing and all parts of the antenna are "coiled about the circuit board".

Regarding claim 29, the Examiner takes the position that the terminal (732) is considered a "power source" since it receives and supplies power to the capsule. The coil part of this terminal is the antenna and as shown by Figure 5 of Gazdzinski, is between the power source and imager. Regarding the battery, the Examiner takes the position that, due to the location of the antenna adjacent the distal end and in close proximity to the image sensor (402), any placement of the battery would naturally have to be proximally of both the imager and antenna.

Regarding Eguchi, the Examiner consulted a translator to verify certain elements were what the Examiner thought they were. In addition, antenna (141) is folded around the elements of the capsule and is thus coiled about those elements (including the circuit boards).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5259795 A	Yamada; Shoji et al.
US 5545924 A	Contolatis; Athanase et al.
US 5031072 A	Malhi; Satwinder S. et al.
US 5867069 A	Kiser; Joseph H.

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US 4495546 A	Nakamura; Tsuneshi et al.
US 6033234 A	Wang; Terry Shing et al.
US 6496384 B1	Morales; Jorge et al.
US 5629839 A	Woychik; Gerard A.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (571) 272-4769. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Leubecker/
Primary Examiner
Art Unit 3739

jpl